As we walked through the Northside a couple of weeks ago, we were informed that the children of Cleveland Academy receive MacBook’s at the third grade level because the majority of their curriculum is online. We were also informed that there is limited wifi accessibility in the Northside area; therefore, students living in areas with limited wifi accessibility cannot access online curriculum. Aside from this issue, it has also been brought to our attention that some adult residents of the Northside community feel as if they aren’t “connected”. These issues resonated with us as we began to think of ways in which we could help the Northside become more sustainable and a better place to live and work. We have put together a proposal of LED street lamps with wifi capabilities, which will be further explained throughout the presentation.

We hope to replicate our project for the Northside after the Plainville, Connecticut model. The city of Plainville has switched from using traditional incandescent street lamps to LED lamps.

To further explain, LED stands for “Light Emitting Diode”.

The difference between LED and Incandescent lighting:
- LED- uses less energy and produces less heat
- Incandescent- emits heat and uses more energy

The new street lamps provide cost efficient lighting by reducing energy usage and maintenance costs, saving up to 60% annually. Lani will further explain the additional environmental benefits of LED lighting. Each street lamp also provides 300 feet of Wi-Fi signal.

So far, Plainville has replaced 1,424 street lamps, of which, 123 have Wi-Fi capability. To relate that to the Northside community, we are proposing to add 100-125 LED/wifi streetlamps to provide the whole Northside community with Wi-Fi.

In the US, up to 44 million lights have been installed so far with an estimated savings of $2 billion annually.

LED lights: a light source that becomes illuminated by the movement of electrons through a semiconductor material // have the ability to produce large numbers of lumens (unit of light output) from far less energy (watts) than conventional light sources [Duke Energy]

Benefits:
- Energy Efficient
  - 95% of energy in LEDs is converted into light and only 5% is wasted as heat
  - Draw in less power
  - Reduces the demand from power plants
  - Decreases greenhouse gas emissions
- No Toxic Elements
  - Fluorescent strip lights contain chemicals such as mercury, which can contaminate the environment when disposed of in a landfill – LEDs avoid the cost and time implications required from disposal
- Fewer Lights Needed
  - LED lamps achieve the same level of brightness given off by traditional lighting options with fewer lamps, which saves money and the environment. There is also an added security element because if residential areas are illuminated, the likelihood of crime occurring decreases
- Life Span
  - An increased life span decreases carbon emissions
  - Lasts up to six times longer than traditional lighting options
  - Reduces the requirement for frequent replacements, which saves money


**Slide 5: Social Aspect**

The first thing you see when you look at Cleveland Academy, the school in the Northside, is a quote, which reads “Every student is a scholar”, but there are obstacles preventing these students from rising to their full academic potential. The students of Cleveland Elementary are given macbooks, but are not able to use them to their full potential because of the lack of internet accessible within the community. The addition of LED lights that have wifi will make it possible for the students of the Northside to be able to perform to their full educational potential.

Here at Wofford, we have The Space, which is a full-service center for professional development and entrepreneurship. The Space prepares Wofford’s students for lifelong success through their services to explore possible careers and launch business plans.